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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|-----------------------------|---------------------|------------------|
| 10/659,273 | 09/11/2003 | Pierre Etienne Bindschedler | 0514-1121 | 5627 |

466 7590 09/01/2006

YOUNG & THOMPSON
745 SOUTH 23RD STREET
2ND FLOOR
ARLINGTON, VA 22202

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| EXAMINER |
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RUDDOCK, ULA CORINNA

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| ART UNIT | PAPER NUMBER |
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1771

DATE MAILED: 09/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/659,273

Applicant(s)

BINDSCHEDLER ET AL.

Examiner

Ula C. Ruddock

Art Unit

1771

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5-8, 13-15 and 17-24 is/are pending in the application.
- 4a) Of the above claim(s) 7 and 8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 6, 13-15, 17-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The Examiner has carefully considered Applicant's amendment and accompanying response filed July 28, 2006. The previously set forth rejections have been overcome in view of Applicant's response. However, after an updated search, additional prior art has been found which renders the invention as currently claimed unpatentable for reasons herein below.

Claim Rejections - 35 USC § 112

2. Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 6, which is dependent upon claim 1, specifies a filler material; however, claim 1 does not require the presence of a filler material (0-50% filler). Therefore, this claim is indefinite.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Rajalingam et al. (US 6,271,305). Rajalingam et al. disclose bituminous polyurethane elastomeric network compositions as coatings for roofing and other applications. The polyurethane prepolymers are generated within a matrix of bituminous material such as asphalt (col 1, ln 19-21). The

thermoplastic polyurethane is obtained from an isocyanate with a functionality of two or greater (col 6, ln 21-25) and polyether polyols and polyester polyols (col 5, ln 66-67). It should be noted that Applicant, on page 6, lines 30-31 of the present specification, describes polyester and polyether polyols as preferred polyols. The polyols can also have a functionality of at least 2 (col 6, ln 13). The bitumen is present in the amount of 40-60% (col 7, ln 65-67). The bitumen and polyols/isocyanate ratio is preferably 50:50 (col 9, ln 27-28). The composition further contains catalysts and curing agents (abstract). It should be noted that the Examiner is equating to Applicant's chain elongation agent. It should also be noted that the aromatic oil, filler, and catalyst ingredients are optional in the claims, as currently written, since the amounts of these materials range from 0%.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rajalingam et al. (US 6,271,305), shown above. Rajalingam et al. disclose the claimed invention except for the teaching that the thermoplastic polyurethane has between 10-40% hard segments.

It should be noted that the amount of hard segments in polyurethane is a result effective variable. The amount of hard segments directly affects the moldability and durability and the

strength of the polyurethane. Therefore, it would have been obvious to one having ordinary skill in the art to have used a thermoplastic polyurethane having between 10-40% hard segments, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980). In the present invention, one would have optimized that amount of hard segments motivated by the desire to create a thermoplastic polyurethane with the desired strength, durability, and moldability.

7. Claims 3 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rajalingam et al. (US 6,271,305), as shown above, in view of Terry et al. (US 5,981,010). Rajalingam et al. disclose the claimed invention except for the teaching that the composition further comprises additives that improve adhesion and that the filler comprises talc.

Terry et al. disclose polyurethane-modified bitumen coating compositions. The composition further comprises a filler material (abstract). The composition also comprises aromatic oil (col 2, ln 40-41). The filler material can be talc in an amount from 0-40% (col 3, ln 19-25). Tackifiers are also used in the composition (col 5, ln 18), which the Examiner is equating to Applicant's additives that improve adhesion of claim 3. It would have been obvious to one having ordinary skill in the art to have used the tackifier and talc material of Terry et al. in the composition of Rajalingam et al., motivated by the desire to create a composition that has increased tackiness and is a protective coating.

8. Claims 13-15 and 17-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rajalingam et al. (US 6,271,305) in view of Lucke (US 4,871,792). Rajalingam et al. disclose bituminous polyurethane elastomeric network compositions as coatings for roofing and other

applications. The polyurethane prepolymers are generated within a matrix of bituminous material such as asphalt (col 1, ln 19-21). The thermoplastic polyurethane is obtained from an isocyanate with a functionality of two or greater (col 6, ln 21-25) and polyether polyols and polyester polyols (col 5, ln 66-67). It should be noted that Applicant, on page 6, lines 30-31 of the present specification, describes polyester and polyether polyols as preferred polyols. The polyols can also have a functionality of at least 2 (col 6, ln 13). The bitumen is present in the amount of 40-60% (col 7, ln 65-67). The bitumen and polyols/isocyanate ratio is preferably 50:50 (col 9, ln 27-28). The composition further contains catalysts and curing agents (abstract). It should be noted that the Examiner is equating to Applicant's chain elongation agent. It should also be noted that the aromatic oil, filler, and catalyst ingredients are optional in the claims, as currently written, since the amounts of these materials range from 0%. Rajalingam et al. disclose the claimed invention except for the teaching of fibrous backings.

Lucke (US 4,871,792) disclose polyurethane-modified bitumen composition that is suitable as a sealant (abstract). The compositions are useful on mineral fiber mats (col 3, ln 53-60). It would have been obvious to one having ordinary skill in the art to have used Rajalingam's composition on the fibrous mats of Lucke, motivated by the desire to create a roofing material that has increased dimensional stability and strength.

Response to Arguments

9. Applicant's arguments with respect to claims 1-3, 5, 6, 13-15, and 17-24 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Shiraki et al. (US 4,994,508) is believed to be pertinent because it discloses a bituminous material, a chain elongation agent, and thermoplastic polyurethane polymer.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ula C. Ruddock whose telephone number is 571-272-1481. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel H. Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

UCR *UCR*

Ula Ruddock
Ula C. Ruddock
Primary Examiner
Tech Center 1700